We give Shape to your projects, starting from the Essence
Alea was found in January 2014, by Petra Mickova and Fabrizio Rizzato, merging the skills of the two owners, chemistry know-how and technical experience.
### Best Achievements

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014 - 2015</td>
<td>Chemical Development and Optimisation of formulations for flexible foam, elastomers and prepolymer,</td>
<td>Portugal</td>
</tr>
<tr>
<td>2014</td>
<td>Chemical and Application Development of soft elastomer</td>
<td>Italy</td>
</tr>
<tr>
<td>2014 - ongoing</td>
<td>Chemical Development, optimization and technical implementation of polyurethane systems for System House - flexible, integral, viscoelastic, elastomers, prepolymer</td>
<td>Italy</td>
</tr>
<tr>
<td>2014</td>
<td>Application Development of flexible foam for furniture</td>
<td>Turkey</td>
</tr>
<tr>
<td>2014</td>
<td>Start up production of technical items in integral skin foam</td>
<td>India</td>
</tr>
<tr>
<td>2015</td>
<td>Start up production of flexible foam for furniture</td>
<td>Romania</td>
</tr>
<tr>
<td>2015</td>
<td>Optimization of quality control testing machine, implementation of quality control procedures</td>
<td>Italy</td>
</tr>
<tr>
<td>2015 - ongoing</td>
<td>Development of new prepolymer, start up production of prepolymer</td>
<td>UAE</td>
</tr>
<tr>
<td>2015 - 2018</td>
<td>Application Development for new molecule</td>
<td>USA</td>
</tr>
<tr>
<td>2016</td>
<td>Start up production of technical items in elastomers for clothing industry</td>
<td>Italy</td>
</tr>
<tr>
<td>2016</td>
<td>Optimization of formulations and production for automotive industry</td>
<td>Turkey</td>
</tr>
<tr>
<td>2016 - 2017</td>
<td>Application development for new filler for elastomers</td>
<td>Switzerland</td>
</tr>
<tr>
<td>2017</td>
<td>Optimization of formulations and production for automotive industry</td>
<td>Russia</td>
</tr>
<tr>
<td>2017 - ongoing</td>
<td>Start up production of new technical items in elastomers for mining industry</td>
<td>UK</td>
</tr>
<tr>
<td>2018-2019</td>
<td>Start up production of new flexible items for Railways</td>
<td>Italy</td>
</tr>
<tr>
<td>2018-2019</td>
<td>Start up production of new integral skin foam for Railways</td>
<td>Italy</td>
</tr>
<tr>
<td>2019 - ongoing</td>
<td>Distribution of special additives for PUR industry</td>
<td>Italy / Spain</td>
</tr>
<tr>
<td>2020</td>
<td>PUR training at customers - chemistry and production</td>
<td>Italy</td>
</tr>
</tbody>
</table>
Worldwide projects
Skills and experience

Petra Mickova
“The Essence”

“I degree in chemistry and I have more than 20 years of experience in the field of polyurethanes, especially in formulating microcellular, flexible, elastomers and integral skin systems for different application like footwear, bedding, furniture, automotive and technical items. I’m specialized in production and optimization of prepolymers and I have deep competences on additives related to the polyurethane chemistry.”

Fabrizio Rizzato
“The Shape”

“I degree in management engineering and I have many years of experience in different fields of plastic industry from quality control and quality assurance to R&D and marketing. I’m specialized in polyurethane flexible, viscoelastic, elastomers and integral skin systems with deep technical know-how on processes, moulds, machines and equipments.”
Start-up and fine tuning of productions related to polyurethane articles
- Setting-up of production layout
- Sourcing and selection of equipments and tools: moulds, machines and production facilities
- Materials sourcing: raw materials, PUR systems, chemical auxiliaries (release agents, color pastes, coatings, additives)
- Definition of the whole production process: planning, methods and schedules, quality control, procedures and logistic

Development and fine tuning of PUR systems
- Development and fine tuning of chemical recipes, selection of raw materials and auxiliaries
- Analytical and chemical testing
- Mechanical testing
- Chemical laboratory set-up: equipments, methods, procedures and quality control
- Production implementation: procedures, equipments/facilities (mixing devices, reactors, logistic) and quality control
- Production start-up

Commercial distribution
- Low pressure and high pressure machines
- Epoxy, aluminium or steel moulds
- Equipments, carrousels, rotating tables, fixed positions
- PUR systems: flexible, viscoelastic (memory), integral skin, structural and rigid foams, elastomers, footwear, prepolymer and specialties
- Chemical auxiliaries: release agents, coatings, color pastes, special raw materials
Polyurethane Competencies

**Flexible HR**
- Moulded (MDI e TDI)
- Disconti blocks
- Norms related to fire resistance (Crib 5, Classe 1IM, CAL 117, MVSS302)
- Low VOC (Blauer Angel, LGA, Öko Tex, Certipur, Ikea std)

**Viscoelastic (memory)**
- Pillows and mattresses
- Disconti blocks
- Pneumatic and chemical approach
- Low VOC (Blauer Angel, LGA, Öko Tex, Certipur, Ikea std)

**Integral skin**
- Systems with blowing agents as 134a, 365/227, 245fa, and new generations (4°)
- Water blown systems
- Norms related to fire resistance (Crib 5, Classe 1IM, CAL 117, MVSS302)
- Low VOC (Blauer Angel, LGA, Oeko Tex, Certipur, Ikea std)
- Viscoelastic integral skin foams (water based or physical blowing agent based)

**Footwear**
- PES and PET based system
- Injection and pouring
- Monodensity and dual density soles
- Safety shoes (ISO 20345-46-47)
- Fussbett, insoles, slippers, boots, etc.

**Elastomers and compact materials**
- Cold cast elastomers
- Liquid polyurethane gels
- Elastomeric polyurethane gels

**Prepolymers**
- PET and PES based
- Processes and procedures of production, quality control
Thank you for your attention